The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

MAILED

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U.S. PATENT AND TRADEMARK OFFICE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte ROBERT C.U. YU,
ANTHONY M. HORGAN, SATCHIDANAND MISHRA,
DONALD C. VON HOENE, BING R. HSIEH, EDWARD F. GRABOWSKI,
RICHARD L. POST and KATHLEEN M. CARMICHAEL

Appeal No. 2006-0053 Application 09/683,326

ON BRIEF

Before GARRIS, WARREN and WALTZ, Administrative Patent Judges.

WARREN, Administrative Patent Judge.

Decision on Appeal

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner refusing to allow claims 1 through 18 and 20 through 22 as amended subsequent to the final rejection, which are all of the claims in the application.

Claims 1 and 16 illustrate appellants' invention of a *seamless* flexible electrostatographic imaging member belt fabrication method in which a *seamed* substrate support belt is produced from a single layer, flexible substrate support sheet, the seamed belt having substantially no increase in belt thickness at the seam in claim 16, and at least one coating is applied to the *seamed* substrate support belt to form a *seamless* flexible electrostatographic imaging member belt, which claims are representative of the appealed claims:

1. A seamless flexible electrostatographic imaging member belt fabrication method comprising:

providing a flexible substrate support sheet, wherein the flexible substrate sheet is a single layer of substantially homogeneous material;

producing first desired features on a first portion of the substrate support sheet, including removing material from the substrate support sheet with first emissions;

producing second desired features on a second portion of the substrate support sheet complementary to the first desired features, including removing material from the substrate support sheet with second emissions;

overlapping the first and second desired features;

bonding the first desired pattern with the second desired pattern to produce a seamed belt; and

applying at least one coating to the seamed belt.

16. A seamless flexible electrostatographic imaging member belt fabrication method comprising:

providing a flexible substrate support sheet, wherein the flexible substrate sheet is a single layer of substantially homogeneous material;

bombarding a first portion of the substrate support sheet with first emissions to produce first desired features;

bombarding a second portion of the substrate support sheet with second emissions to produce second desired features complementary to the first desired features;

overlapping the first and second desired features;

bonding the first desired pattern with the second desired pattern to produce a seamed belt having substantially no increase in belt thickness at the seam; and

applying at least one coating over the seamed belt.

The references relied on by the examiner are:

Schlueter, Jr. et al. (Schlueter '193)	5,549,193	Aug. 27, 1996
Yu	5,688,355	Nov. 18, 1997
Schlueter, Jr. et al. (Schlueter '974)	5,997,974	Dec. 7, 1999

The examiner has rejected appealed claims 1 through 12, 14, 16 through 18 and 20 through 22 under 35 U.S.C. § 103(a) as being unpatentable over Yu in view of Schlueter '974 (answer, pages 4-8), and appealed claims 13 and 15 under 35 U.S.C. § 103(a) as being unpatentable over Yu in view of Schlueter '974, as applied above, and further in view of Schlueter '193 (answer, page 8).

Appellants group the appealed claims in the first ground of rejection as all of the appealed claims; claim 8; claims 11, 12 and 14; claims 16 and 17; claim 18; claim 20; and claims 21 and 22. Appellants present arguments based on claim 13 with respect to the second ground of rejection. Thus, we decide this appeal based on appealed claims 1, 8, 11, 13, 16, 18, 20 and 21 as representative of the grounds of rejection and appellants' groupings of claims. 37 CFR § 41.37(c)(1)(vii) (September 2004).

We affirm.

We refer to the answer and to the brief and reply brief for a complete exposition of the positions advanced by the examiner and appellants.

Opinion

We have carefully reviewed the record on this appeal and based thereon find ourselves in agreement with the examiner that, *prima facie*, the claimed seamless flexible electrostatographic imaging member belt fabrication method encompassed by appealed claims 1, 8, 11, 16, 18, 20 and 21 would have been obvious over the combined teachings of Yu and Schlueter '974 and the claimed seamless flexible electrostatographic imaging member belt fabrication method encompassed by appealed claim 13 would have been obvious over the combined teachings of Yu, Schlueter '974 and Schlueter '193, to one of ordinary skill in this art at the time the claimed invention was made. Accordingly, since a *prima facie* case of obviousness has been established over the applied prior art, we have again evaluated all of the evidence of obviousness and nonobviousness based on the record as a whole, giving due consideration to the weight of appellants' arguments in the brief and reply brief. *See generally, In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984).

The principal issue in this appeal is whether one of ordinary skill in this art would have been motivated by the combined teachings of Yu and Schlueter '974 to modify the flexible electrostatographic imaging member belt fabrication method of Yu, wherein complimentary desired features are formed in opposing ends of a multilayered sheet by laser ablation and the ends joined by overlapping and bonding to form a *seamed* flexible electrostatographic imaging member belt, by forming complementary desired features in opposing ends of a flexible substrate

support sheet and the ends joined by overlapping and bonding to form a *seamed* substrate support belt that is subsequently coated with a layer or layers of material to form a *seamless* flexible electrostatographic imaging member belt in view of the teachings of Schlueter '974. The latter reference would have disclosed that, alternatively, opposing ends of a multilayered sheet or a flexible substrate support sheet can be laser cut in complementary puzzle cut patterns, the ends joined by bonding without overlapping, wherein the multilayered sheet forms a *seamed* flexible electrostatographic imaging member belt and the flexible substrate support sheet forms a *seamed* substrate support belt that is subsequently coated with a layer or layers of material to form a *seamless* flexible electrostatographic imaging member belt. *See* Yu, e.g., col. 7, l. 63, to col. 8, l. 52; col. 11, l. 61, to col. 12, l. 45; col. 16, l. 58, to col. 23, l. 32; and FIGs. 5 and 6A through 9B; Schlueter '974, e.g., col. 3, l. 41, to col. 4, l. 28; col. 6, ll. 9-12 and 29-65; col. 10, ll. 40-42 and 54-56; col. 11, ll. 18-48 and 57-64; and FIGs. 1, 2 and 10.

Appellants submit that one of ordinary skill in this art would not have been motivated to combine Yu and Schlueter '974 for several reasons. Appellants point out that contrary to the claimed invention, Yu laser ablates a multilayered sheet, thus teaching away from the claimed invention, and neither Yu nor Schlueter '974 would have disclosed that laser ablation of a multilayered sheet "poses problems with proper absorption of laser energy" (brief, page 12; reply brief, page 2). Appellants further argue that Schlueter '974 would have taught away from overlapping the ends of the belt because the reference teaches attaching the ends of the belt with a "puzzle cut pattern" which is not overlapped, in order to avoid "butting or overlapping techniques [that] provide a bump or other discontinuity in the belt surface leading to a height differential between adjacent portions of the belt . . . which leads to performance failure in many applications" (reply brief, pages 2-3; Schlueter '974, col. 1, Il. 60-65). Appellants contend that the disclosure in Schlueter '974 that it "is most economical . . . to form the belt seam initially and then apply the desired overcoating" (col. 10, ll. 40-42) would have suggested that it "is more economical than applying overcoating to an unseamed belt and then filling the seam areas from the back of the belt" when the disclosure at col. 10, ll. 34-42, is read in context (reply brief, page 2). Similarly, appellants argue that Schlueter '974 would not have provided motivation to coat

the formed belts of Yu with layers such as a charge generating layer and charge transport layer that "are already incorporated into the belt" (brief, pages 11 and 13).

The examiner points out that "[t]he electrostatographic belts of Yu and Schlueter '974 essentially have the same layers in the same order" as the claimed seamless belts, and on this basis submits that one of ordinary skill in this art considering the applied prior art "as a whole would have readily appreciated that the various layers can be applied to the support sheet and the belt seamed as taught in Yu or to seam the support sheet and then applying the remaining layers as taught in Schlueter '974," citing *In re Keller*, 642 F.2d 413, 425-26, 208 USPQ 871, 881-82 (CCPA 1981) (answer, pages 9-10; original emphasis deleted).

We find substantial evidence in the record supporting the examiner's position. Both Yu and Schlueter '974 are directed to minimizing the affect of the seam on the performance of the belt; the references evincing that the seam must be formed at some point in the method to fabricate a flexible electrostatographic imaging member belt. Yu does this by sharpening the complimentary features for overlapping the opposing ends of a multilayer sheet to provide a "thin profile seam . . . [which] exhibits only a slight increase in seam thickness compared to the thickness of the remainder of the belt" (col. 12, ll. 40-44; see also col. 17, ll. 35-51). As the examiner finds, Schlueter '974 teaches forming a puzzle cut seam by laser cutting, that is, ablating, the opposing ends of either a substrate support sheet to form a seamed belt, followed by applying coatings thereto to form a seamless belt, or a multilayered sheet to form a seamed belt, either method resulting in flexible electrostatographic imaging member belts having the same layers as the flexible electrostatographic imaging member belts prepared by the method of Yu.

Schlueter '974 would have taught that the method therein produces "substantially no thickness differential between the seam and the adjacent portions of the belt" (col. 5, ll. 27-28). The formation of the seam with the ends of a flexible substrate support sheet followed by overcoating to form the seamless belt is illustrated in the sole example in Schlueter '974, and contrary to appellants' arguments, we find that the reference in fact fairly teaches that methods involving formation of the seam with the ends of the substrate support sheet are the "most economical" (col. 10, ll. 34-42). Indeed, one of ordinary skill in the art would have reasonably inferred from Schlueter '974 that a simpler laser cutting step is required when the seam is formed

from the substrate support sheet, and the seamed substrate support belt so formed would have a lower seam thickness differential resulting in less of a seam effect on a *seamless* flexible electrostatographic imaging member belt formed by coating layers thereon than would the exposed seam of a *seamed* flexible electrostatographic imaging member belt formed from a multilayer sheet.¹

Thus, we determine that the combined teachings of methods of fabricating a flexible electrostatographic imaging member belt involving formation of a seam at some point in Yu and Schlueter '974 would have reasonably suggested to one of ordinary skill in the art that such belt can be fabricated by forming complimentary features in the opposing ends of a substrate support sheet, and overlapping and bonding the ends to form a seamed substrate support belt by the method of Yu and then applying coatings thereto to form an electrostatographic imaging member belt as suggested by Schlueter '974 in the reasonable expectation of minimizing the affect of the seam on the performance of the belt, which is the objective of both references. Accordingly, one of ordinary skill in this art routinely following the combined teachings of Yu and Schlueter '974 would have reasonably arrived at the claimed method of fabricating a seamless flexible electrostatographic imaging member belt encompassed by appealed claim 1, including each and every limitation thereof arranged as required therein, without recourse to appellants' specification. See In re Dow Chem. Co., 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988) ("The consistent criterion for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that [the claimed process] should be carried out and would have a reasonable likelihood of success viewed in light of the prior art. [Citations omitted] Both the suggestion and the expectation of success must be founded in the prior art, not in the applicant's disclosure."); Keller, 642 F.2d at 425, 208 USPQ at 881 ("The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly

¹ It is well settled that a reference stands for all of the specific teachings thereof as well as the inferences one of ordinary skill in this art would have reasonably been expected to draw therefrom, see In re Fritch, 972 F.2d 1260, 1264-65, 23 USPQ2d 1780, 1782-83 (Fed. Cir. 1992); In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968), presuming skill on the part of this person. In re Sovish, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985).

suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art."); *In re Siebentritt*, 372 F.2d 566, 567-68, 152 USPQ 618, 619 (CCPA 1967) (express suggestion to interchange methods which achieve the same or similar results is not necessary to establish obviousness); *see also In re O'Farrell*, 853 F.2d 894, 903-04, 7 USPQ2d 1673, 1680-81 (Fed. Cir. 1988) ("Obviousness does not require absolute predictability of success. . . . There is always at least a possibility of unexpected results, that would then provide an objective basis for showing the invention, although apparently obvious, was in law nonobvious. [Citations omitted.] For obviousness under § 103, all that is required is a reasonable expectation of success. [Citations omitted.]").

We are not persuaded otherwise by appellants' arguments. It is well settled that references can be combined where, as here, the combined teachings of Yu and Schlueter '974 would have reasonably suggested to one of ordinary skill in the art that the alternative method of forming a seam by overlapping and bonding complimentary features in opposing ends of a substrate support sheet and then coating the seamed substrate support belt as taught by Schlueter '974 would result in a flexible electrostatographic imaging member belt having similar properties to such a belt having a seam formed by overlapping and bonding complimentary features in opposing ends of a multilayered sheet as taught by Yu. Indeed, we know of no authority, and appellants fail to cite authority, holding that one of ordinary skill in the art would combine references *only* to address a particular problem as appellants argue. *See generally, In re Rouffet*, 149 F.3d 1350, 1358, 47 USPQ2d 1453, 1458 (Fed. Cir. 1998); *Pro-Mold and Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1629-30 (Fed. Cir. 1996); *In re Fine*, 837 F.2d 1071, 1074-76, 5 USPQ2d 1596, 1598-1600 (Fed. Cir. 1988); *Dow Chem.*, 837 F.2d at 473, 5 USPQ2d at 1531; *Keller*, 642 F.2d at 425, 208 USPQ at 881; *Siebentritt*, 372 F.2d at 567-68, 152 USPQ at 619.

We further find no teachings in either Yu or Schlueter '974 which would have led one of ordinary skill in the art away from combining the references, as appellants argue. This is because neither reference contains disclosure which criticizes, discredits or otherwise discourages following any of the alternative methods of forming a belt as taught by Schlueter '974 or forming

overlapping features in a flexible substrate support sheet. *See In re Fulton*, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1145-46 (Fed. Cir. 2004).² Indeed, the acknowledgment by Schlueter '974 that "typical" butting or overlapping methods can result in a seam bump or other discontinuity leading to a significant seam thickness differential, as appellants point out, does not discredit either Yu or Schlueter '974 both of which are directed to minimizing seam thickness differential by other methods than "merely butting the two ends of the belt material" (col. 1, ll. 56-60). *Cf. In re Young*, 927 F.2d 588, 591-92, 18 USPQ2d 1089, 1091-92 (Fed. Cir. 1991), citing *Keller*, 642 F.2d at 425, 208 USPQ at 881 (specific evaluation of teachings of one reference in another reference must be considered for what the combined teachings of the references would have suggested to one of ordinary skill in the art).

We also find no evidence in Yu or Schlueter '974 which supports appellants' contention that the combined teachings thereof would have led one of ordinary skill in the art to further coat the seamed belt of Yu. This is because, as the examiner points out, the belt of Yu has the necessary layers for a flexible electrostatographic imaging member belt and the coating of additional layers thereon proposed by appellants merely duplicates layers already present without reason to do so.

Appellants further point to the requirement in claim 16 that the overlapped and bonded substrate support "seamed belt having substantially no increase in belt thickness at the seam" and contend that neither Yu nor Schlueter '974 meet this limitation. In interpreting the language of a claim, we give the terms thereof the broadest reasonable interpretation in their ordinary usage as they would be understood by one of ordinary skill in the art in light of the written description in the specification, unless another meaning is intended by appellants as established in the written description of the specification, and without reading into the claims any limitation or particular embodiment disclosed in the specification. See, e.g., In re Am. Acad. Of Sci. Tech. Ctr., 367 F.3d

² See also In re Gurley, 27 F.3d 551, 552-53, 31 USPQ2d 1130, 1131-32 (Fed. Cir. 1994) ("A reference may be said to teach away when a person of ordinary skill, upon reading the reference would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. The degree of teaching away will of course depend on the particular facts; in general, a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant. [Citations omitted.]").

1359, 1364, 70 USPQ2d 1827, 1830 (Fed. Cir. 2004); *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989).

The term "substantially" is a term of degree, and thus, the written description in the specification must either provide a definition or general guidelines and examples sufficient as a standard to enable a person of ordinary skill in the art to determine the degree to which an increase in belt thickness at the seam is encompassed by the claim, or this term will be given its ordinary meaning. See Morris, 127 F.3d at 1054-55, 44 USPQ2d at 1027; York Prods., Inc. v. Central Tractor Farm & Family Ctr., 99 F.3d 1568, 1572-73, 40 USPQ2d 1619, 1622-23 (Fed. Cir. 1996) ("In this case, the patent discloses no novel use of claim words. Ordinarily, therefore, 'substantially' means 'considerable in . . . extent,' American Heritage Dictionary Second College Edition 1213 (2d ed. 1982), or 'largely but not wholly that which is specified,' Webster's Ninth New Collegiate Dictionary 1176 (9th ed. 1983)."); Seattle Box Co., Inc. v. Industrial Crating & Packing, Inc., 731 F.2d 818, 826, 221 USPQ 568, 573-74 (Fed. Cir. 1984) ("Definiteness problems arise when words of degree are used. That some claim language may not be precise, however, does not automatically render a claim invalid. When a word of degree is used . . . [it] must [be determined] whether the patent's specification provides some standard for measuring that degree."); In re Mattison, 509 F.2d 563, 564-65, 184 USPQ 484, 486 (CCPA 1975) ("substantially increase the efficiency of the compound as a copper extractant"); cf. In re Marosi, 710 F.2d 799, 802-03, 218 USPQ 289, 292 (Fed. Cir. 1983) ("essentially free of alkali metal").

We find no definition for the language overlapped and bonded substrate support "seamed belt having substantially no increase in belt thickness at the seam" in the written description in appellants' specification, or any examples or other disclosure that provides a standard to interpret the claim language. Indeed, the disclosures in specification paragraphs 0039 and 0040, which merely recites the same language, and in specification paragraph 0037, which merely states that prior art methods "leave margins for improvement" (reply brief, pages 4-5), provide no guidance. Thus, a reasonable, ordinary meaning of the subject claim language of claim 16 includes within its scope no increase in belt thickness at the seam to largely but not wholly no increase in belt

thickness at the seam based on the common dictionary definition in context of the term "substantially." See York Prods., 99 F.3d at 1572-73, 40 USPQ2d at 1622-23.

Accordingly, we determine that the subject language of claim 16 does not patentably distinguish over the combined teachings of Yu and Schlueter '974. We find no disclosure in Yu quantifying the increase in belt thickness at the seam formed with the multilayered sheet illustrated in FIGs. 6B, 7B, 8B and 9B, relied on by appellants (brief, page 14; reply brief, page 4). The reference does disclose, for example, "a thickness that only slightly exceeds the original thickness" with respect to FIGs. 6B (col. 20, ll. 23-24), and "minimum seam thickness" with respect to FIGs. 7B (col. 21, 1. 48). In this respect, Yu would have disclosed that the increase in belt thickness at the seam can be as little as "about 103 percent of the total thickness of the original sheet" (col. 17, ll. 43-44). However, as we found above, one of ordinary skill in the art would have reasonably inferred from Schlueter '974 that a substrate support belt formed from a substrate support sheet would have a lower seam thickness differential resulting in less of a seam effect on an electrostatographic imaging member belt formed by coating layers thereon than would the exposed seam formed with a multilayer sheet. Indeed, this person would have reasonably expected a slight increase in belt thickness at the seam of a belts formed by the method of Yu from a single layer substrate support sheet, which satisfies the requirements of appealed claim 16.

We are not convinced otherwise by appellants' arguments linking the acknowledgement in specification paragraph 0021 of the specification that following the method of Yu, "[t]he

In addition to the arguments based on the disclosure in the specification, appellants further consider that the subject claim language does not encompass a seam thickness differential of "about 103 percent" disclosed in Yu as we discuss below, from which it is apparent that the scope of the claimed invention intended by appellants is not reflected by the language of appealed claim 16 and other appealed claims containing that language. It is well settled that applicants' mere intent as to the scope of the claimed invention does not so limit the scope of a claim which is otherwise definite, when construed in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Cormany*, 476 F.2d 998, 1000-02, 177 USPQ 450, 451-53 (CCPA 1973). Thus, we suggest that upon any further prosecution of the claimed invention before the examiner subsequent to the disposition of this appeal, appellants address the matter of claim scope, pointing to those passages in the specification which establish their position as well as support the claim language with respect to the requirements of 35 U.S.C. § 112, first paragraph, enablement and written description requirements, and second paragraph.

resulting multi-layered imaging member belt thus obtained has a welded seam of little added thickness and reduced amount of seam splashing formations" with the acknowledgement specification paragraph 0012 that "because of the overlap and presence of seam splashing, a typical flexible imaging member is about 1.6 times thicker in the seam region than elsewhere in the imaging member" (reply brief, pages 3-4). We find that it is readily apparent from these passages and indeed, from the disclosure of Yu (e.g., col. 12, ll. 36-46, and col. 17, ll. 41-51), that the information acknowledged in specification paragraph 0012 is not at all connected to that in specification paragraph 0021.

We are also not persuaded by appellants' arguments with respect to the claim language "flexible substrate support sheet is a single layer of substantially homogeneous material," in, e.g., appealed claim 1, or the requirement in appealed claim 20 that the "flexible substrate support sheet is a sheet of PET," that is, poly(ethylene terephthalate) (reply brief, page 2; see also specification paragraphs). We do not find the term "substantially homogenous material" in the specification. We do find that the disclosure with respect to substrate support sheets in specification paragraph 0065 and at col. 8, 11. 38-52, of Yu are in fact the same; the disclosures including any manner of material, and "[p]referably, the endless flexible belt shaped substrate support comprises a commercially available biaxially oriented polyester." Schlueter '974 would have disclosed the same and similar materials and that suitable belt material "typically" includes, among others, "polyester" (col. 6, 11. 9-45). In these respects, appellants acknowledge "a 3-mil thick biaxially oriented poly(ethylene terephthalate) substrate used in typical photoreceptor belts" (specification paragraph 0063). Thus, on this record, we determine that a reasonable, ordinary meaning of the subject claim language includes within its scope a belt consisting of a single material or homogenously mixed materials to largely but not wholly a single material or homogenously mixed materials based on the common dictionary definition in context of the term "substantially." See York Prods., 99 F.3d at 1572-73, 40 USPQ2d at 1622-23. Indeed, we determine the disclosures of Yu and Schlueter '974 coupled with appellants' acknowledged typical use of commercially available biaxially oriented polyester for belt material would have reasonably suggested the use of such substantially homogeneous material as belt material to one of ordinary skill in the art.

We now turn to appealed claim 13 which modifies the claimed method encompassed by appealed claim 11 by requiring that "the overlapping and bonding includes placing an adhesive over the first and second patterns, and curing the adhesive." The examiner submits that one of ordinary skill in this art would have been led by Schlueter '193, which teaches the use of "any conventional adhesive" to overlap and bond rabbeted joints formed by laser ablation (e.g., col. 4, ll. 47-67, col., 5, ll. 40-43, and **FIGs. 2-4**), to so modify the method of forming such joint taught by the combined teachings of Yu and Schlueter '974, wherein Yu would not have taught the use of an adhesive (answer, page 8). Appellants submit that the combined teachings of Yu and Schlueter '974 would not have suggested the claimed method of fabricating a seamless flexible electrostatographic imaging member belt encompassed by appealed claim 11 based on the same arguments with respect to this combination of references that we considered above (brief, pages 16-18). Appellants further argue that Schlueter '193 does not supply the deficiencies they find in said combination of references (*id.*, page 19).

We find little difference in the scope of appealed claim 11 vis-à-vis appealed claims 1 and 16, which we determined to be representative of the claims on appeal, and no difference with respect to the principal issue in this appeal. Indeed, Schlueter '193 is relied on by the examiner solely with respect to the issue involving the use of an adhesive, which issue is not addressed by appellants.

Accordingly, based on our consideration of the totality of the record before us, we have weighed the evidence of obviousness found in the combined teachings of Yu and Schlueter '974 and the combined teachings of Yu, Schlueter '974 and Schlueter '193 with appellants' countervailing evidence of and argument for nonobviousness and conclude that the claimed invention encompassed by appealed claims 1 through 18 and 20 through 22 would have been obvious as a matter of law under 35 U.S.C. § 103(a).

The examiner's decision is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv) (September 2004).

AFFIRMED

BRADLEY R. GARRIS

Administrative Patent Judge

CHARLES F. WARREN

Administrative Patent Judge

BOARD OF PATENT APPEALS AND

INTERFERENCES

THOMAS A. WALTZ

Administrative Patent Judge

Appeal No. 2006-0053 Application 09/683,326

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